Fuji Photo & Xerox' speed optics

Fuji Photo Film Co Ltd and Fuji Xerox Co Ltd have co-developed a high-speed optical transmission Lumistar system, capable of transmission at more than 1Gbps without deterioration in output signal quality due to the graded-index distribution of refractive-index within the fibre. Combining optical transceiver module with VCSEL, high-speed transmitter and receiver developed by Fuji Xerox Co Ltd with the optical lens module developed by Fuji Photo Optical Co Ltd, the system realises some 100,000h of network build. The system links large flat panel displays such as plasma TV, large-size LC TVt, and projectors with tuners. Conventional electric wires deteriorate the quality of an electric signal along their distance, making it difficult to establish a link of 10m or longer. Lumistar enables an optical link of 30m and is suitable for application fields such as event sites, amusement facilities, commercial establishments, security facilities, hotels, and service areas.

Blue film LED

Osram Opto Semiconductors claims to be first to solve problems implementing thin film blue LEDs. Its new ThinGaN technology, based on Indium Gallium Nitride (InGaN) will promote applications such as use of LEDs in vehicle headlights. Series production is due to start in 2004. Standard substrate material for blue LEDs based on InGaN is SiC, with a typical substrate thickness of 250mm. Chemically and mechanically stable, this cannot be removed without a wet chemical or dry chemical plasma process without destroying the InGaN epitaxial layer. Sapphire properties cause distortion and defect during InGaN growth reducing luminous efficacy. Osram has tailored the epi procedure to this material, developing a way to remove the substrate using a production scale laser lift-off plant. Light from a pulsed laser splits the material into its components and it can be cleanly separated from the substrate. Prototypes of 5mm radial LEDs achieve brightness values of up to 16mW for blue products (460nm) at an operating current of 20mA.

Zygo winning contracts

Zygo, high-precision optics manufacturer's net sales for fiscal year to end June 2003 rose 28% to $102m. Net loss over the period fell to $10.6m down on $11.7m in the earlier year.

Among recent achievements it has won a $6m contract to produce high-quality optics for use in next-gen semiconductor equipment, the contract running from 2004 to April 2006.

The company has also received an order of undisclosed value from Northrop Grumman to supply custom sapphire windows for advanced infrared target acquisition systems.

"Zygo continues to expand the number of key components produced and supplied to the semiconductor capital equipment industry," said president and CEO, Bruce Robinson.

"These optics join a growing suite of products available from Zygo to enhance the performance of lithography tools."

Europe allocates E45m for optics

Deadlined for proposals by 15 October, photonics in Europe should see a big boost with the allocation of a €45m fund. The European Commission has earmarked this for photonics-related research projects selected in the second call of its Sixth Framework Programme (FP6). The finance results from a new strategic objective for "optical, optoelectronic and photonic functional components" from the Information Society Technologies directorate, with the investment intended to support forward-thinking optics projects.

The Commission now looks to research challenges for 2010 and beyond, not only in the well known sectors of telecoms and IT, but also in healthcare, life sciences, the environment and security. Its emphasis is on three areas:

- Structures and integration of advanced materials and photonics with microelectronics (including research into compound semiconductors, micro-optics, polymers and glass).
- Advanced devices, integrating photonic circuits and sensors for medical and environmental sectors as well as telecoms.
- Inevitably, compact solid-state light sources with increased brightness and tunability (including ultra-short pulse generation and microcavities).

The Commission's Ronan Burgess, noted that the call for photonics projects is broader than previously in that it covers medical and environmental use. Noting that "photonics is not just a subset of telecoms," he commented that "There's a lot of potential for transferring technology from telecoms."

Contact:
http://www.cordis.lu/ist/so/photonic-components

Technology: Optoelectronics

BRIEFS

Atmel Corporation has launched a new RF data control transceiver designed for automotive and other mobile Remote Keyless Entry (RKE) and Passive Entry Go (PEG) systems that will benefit from extremely low current consumption and small size, the mandatory requirements for small, battery-driven applications such as a car keys. In addition, the new transceiver can also be used for a broad range of further transceiver RF links where low power consumption and an effective system are required, such as energy metering, home automation, alarm and telemetry systems.

Kathrein-Werke KG & Powerwave Technologies Inc are to jointly develop integrated RF power amplifiers and antenna products for the wireless infrastructure base station market. The alliance is to offer wireless operators scaleable solutions that lower wireless network operator's cost of ownership and assists in accelerating deployment of new wireless services. Combining proprietary technologies and expertise as suppliers of RF power amplifiers and manufacturer of RF basestation antennae they offer a complete RF power amplifier system.

New Zealand based Rakon has launched what it claims as the smallest, highest stability, oscillator solution, enabling weak signal detection for GPS applications. The new (integrated) IT5300B combines high performance and small size for low cost. Improved TCXO performance is required to assist GPS receivers in detecting and tracking weak signals. Designed for weak signal GPS applications as in mobile phone emergency, location based services & personal security. Achieving 0.5ppm temperature stability, the IT5300B suits telecom, microwave, EPIRB and satellite.